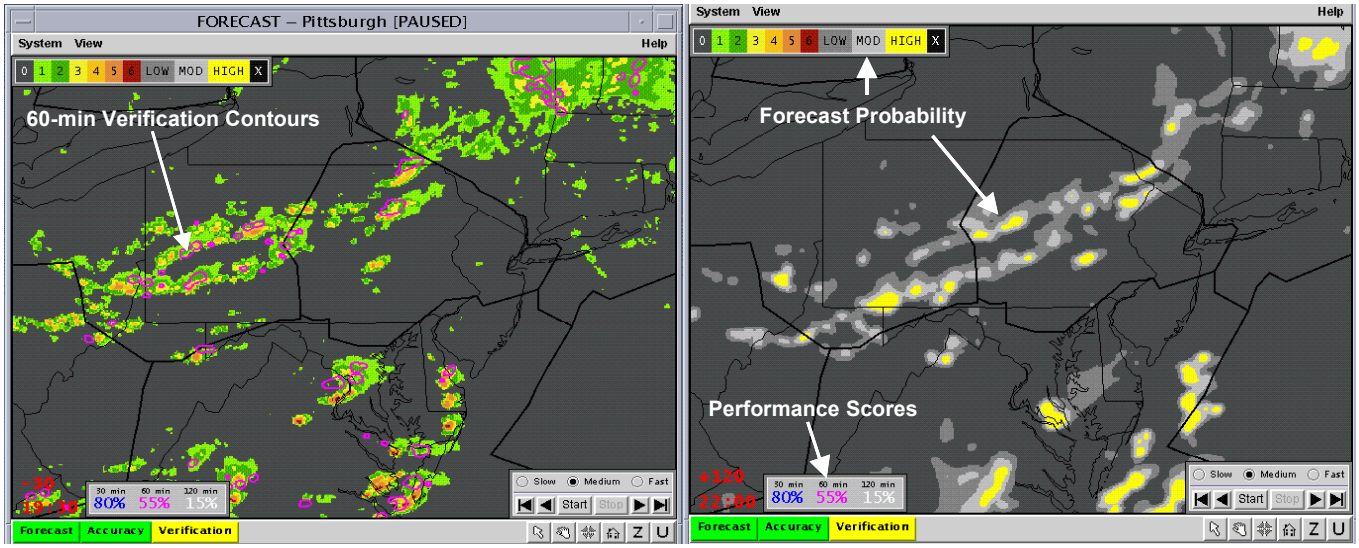
CIWS 2-hr FORECAST PRODUCT

ANIMATED FORECASTS OUT TO 2 HOURS

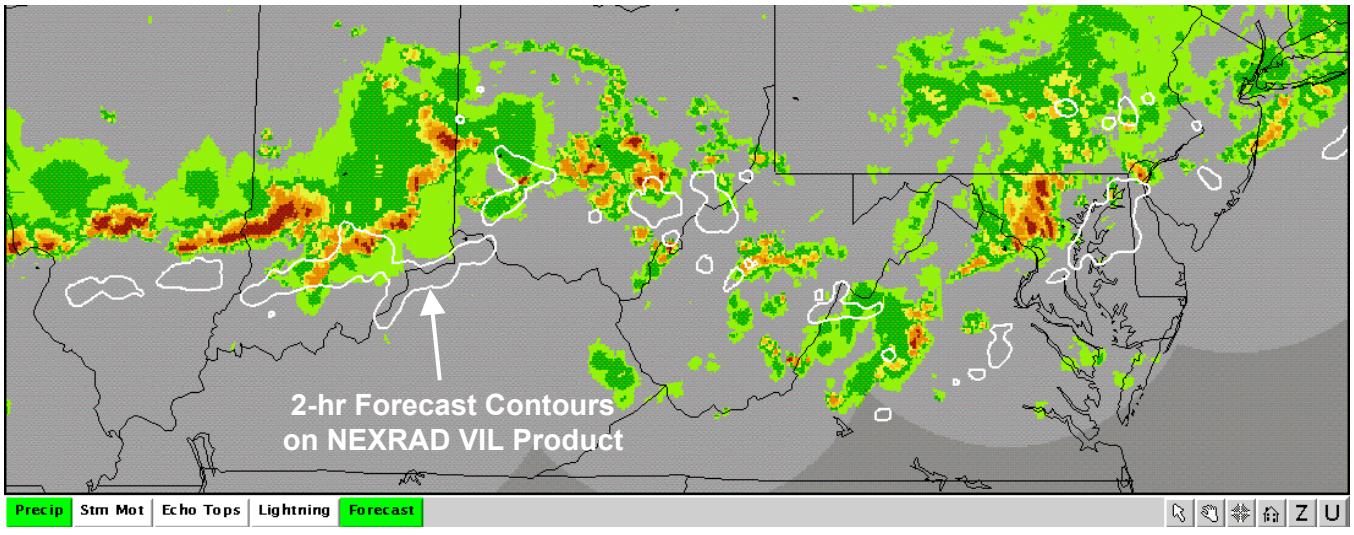
The FAA Corridor Integrated Weather System (CIWS) now has a 2-hr Forecast Loop available. The forecast covers the 0-2hr time period critical to short-term tactical traffic flow management required in the convective season. MIT-patented technology for multi-scale storm tracking is utilized in making the product. The forecast animates 60-min of past weather and up to 120 min of forecast weather in 15 min increments. Forecast performance is indicated both by verification contours on the past weather and by numerical performance scores.



Two images from the full –60 to +120 min CIWS forecast loop are shown. On the left, the weather 30 min prior to the current time is shown. Magenta verification contours representing the 60-min forecast made 30 minutes ago are overlaid. Color-coded verification contours for 30, 60 and 120 min forecasts are available, and give the user a good sense of system performance overall. On the right, the +120 min probabilistic forecast is shown. The high probability regions are depicted in yellow, to connote the Level 3+ precipitation that is forecast to occur at those locations. At the bottom in each frame are numerical performance scores keyed to the home TRACON (Pittsburgh in this case). These give another quantitative measure of the forecast performance.

CAPSULE SUMMARY OF FORECASTS ON CIWS CURRENT PRECIPITATION

It may be helpful to some users to have a reference to the forecast on the current precipitation. CIWS now has the capability of displaying contours of the 30, 60 and/or 120 min forecast on the NEXRAD Precipitation product. This provides air traffic decision makers a useful heads-up on changes to the usable airspace likely due to convective weather.

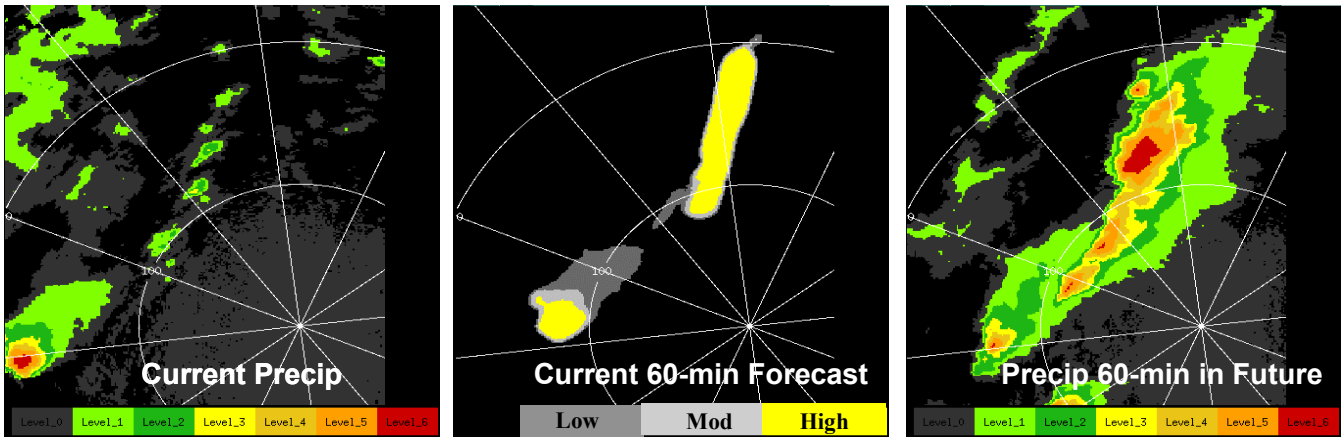


ENHANCEMENTS TO CIWS 2-hr FORECAST

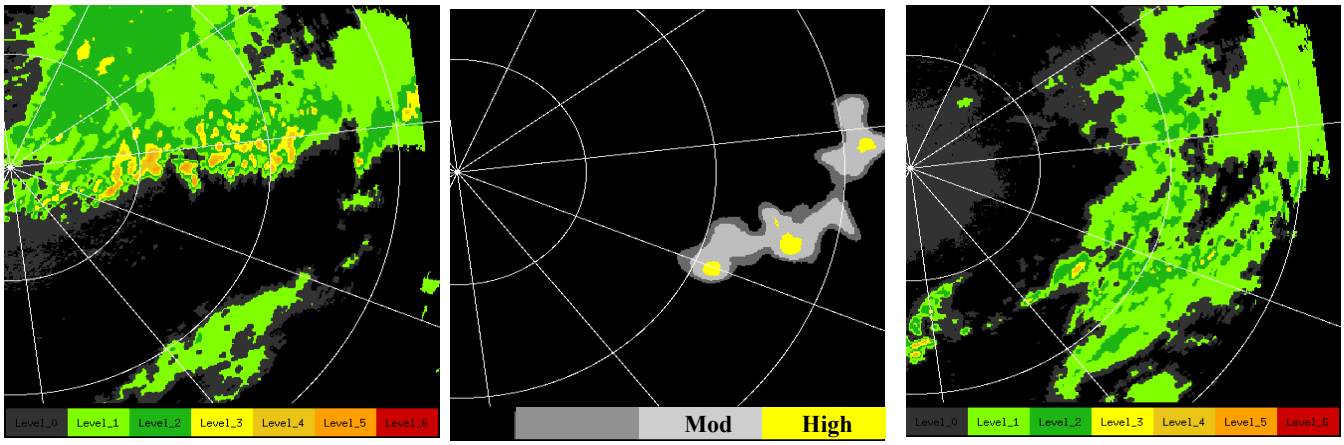
GROWTH AND DECAY TRENDING

The FAA Corridor Integrated Weather System (CIWS) 2-hr Forecast product will be enhanced with Growth and Decay Trending early in FY'03. This package measures the radar returns over time, and calculates zones of persistent growth and/or decay. This evidence is translated into changes in each 15-min probability map out to 120-min that make up the CIWS 2-hr Forecast Loop. The zones of growth and decay trends will be available as an overlay on the display of the current NEXRAD precipitation in the spring '03 CIWS release.

GROWTH EXAMPLE



DECAY EXAMPLE



Two examples of storm growth and decay are shown. In each case, the amount of high probability coverage in the forecast (yellow) would roughly equal the area of current level 3+ precipitation (also yellow) were it not for the changes due to grown and decay trending.

ADDITIONAL ENHANCEMENTS

The CIWS 2-hr Forecast also uses geostationary satellite data to determine areas of storm growth. Several additional enhancements to the CIWS 2-hr Forecast are slated for FY'03, including an upgraded satellite processing package, large scale growth and decay forcing based on the national "Rapid Update Cycle" numerical weather prediction model, and fine scale boundary layer forcing based on locating thunderstorm outflow boundaries with the Machine Intelligent Gust Front Algorithm (MIGFA) applied to NEXRAD and TDWR base data.

For further information on the 2-hr Forecast:	*Dan Strawbridge*	*FAA ARW-300*	*202-267-7465*
	Gloria Kulesa	*FAA AUA-460*	*202-493-0108*
	Marilyn Wolfson	*MIT Lincoln Laboratory*	*781-981-7439*

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